

DOCKET NO.: 02-42 US

IN THE CLAIMS:

Please amend the claims as follows:

Claim 1. (currently amended) A vibrating pumping stage for vacuum pumps, comprising:

a supporting base (15; 15'), comprising a silicon wafer;

a peripheral rim (17) formed on said supporting base;

a vibrating assembly (121; 221; 321) comprising a planar membrane fastened to said supporting base (15; 15') and having edge regions, and a side extension (125) overlapping said peripheral rim defining a first contact area (127),~~said vibrating assembly comprising an active surface by which the deflection of the molecules of surrounding gas is caused during vibration of said vibrating assembly, a cavity (13) housing said electrode formed in said supporting base below said vibrating assembly, and~~

a control device (21) disposed between said supporting base (15; 15') and said vibrating assembly to make said vibrating assembly vibrate ~~and consequently cause deflection of said gas molecules, wherein~~ said control device (21) is being an electrode housed within a cavity (13) surrounded by said peripheral rim (17). said electrode comprising a side extension (23) partly overlapping the peripheral rim defining a second contact area (27); ~~and wherein~~ a variable electric field is applied between said electrode and said vibrating assembly to cause vibration of said vibrating assembly with respect to said supporting base, said electric field generated by a sinusoidal signal, which is applied to said first and second contact areas and said sinusoidal signal having a frequency close to the resonance frequency of said vibrating assembly, ~~said membrane being fastened to said supporting base at edge regions of said membrane, whereby said membrane is suspended above said cavity.~~

Claims 2-6 (canceled)

Claim 7. (previously presented). The vibrating pumping stage as claimed in claim 1, wherein said planar membrane is resilient.

Claim 8. (previously presented). The vibrating pumping stage as claimed in claim 1, wherein said

DOCKET NO.: 02-42 US

planar membrane is substantially rectangular and said edge regions comprise its ends (123a, 123b) corresponding to the minor sides of said rectangle.

Claim 9. (previously presented) The vibrating pumping stage as claimed in claim 7, wherein said membrane is substantially H-shaped and said edge regions comprise its four ends (223a, 223b).

Claim 10. (currently amended) The vibrating pumping stage as claimed in claim 9, wherein said edge regions of said membrane ~~further comprise a~~ is fastened to said supporting base along peripheral rim (17) surrounding said cavity (13), whereby said membrane is suspended above said cavity.

Claims 11-12. (canceled)

Claim 13. (previously presented) The vibrating pumping stage as claimed in claim 1, wherein said planar membrane of said vibrating assembly comprises a rigid membrane (331) supported by resilient members or suspension springs (333), placed between said membrane (331) and said supporting base, said resilient members being fastened to said supporting base.

Claim 14. (original) The vibrating pumping stage as claimed in claim 13, wherein said membrane and said supporting base have a substantially parallelepipedal rectilinear shape.

Claim 15. (original) The vibrating pumping stage as claimed in claim 14, wherein said resilient members are S-shaped.

Claim 16. (previously presented) The vibrating pumping stage as claimed in claim 14, wherein said membrane has openings (329) to form a sufficiently rigid trellis structure causing the membrane to vibrate substantially parallel to the plane on which it lies in idle conditions.

Claims 17-20 (canceled)